

5 wt% Ta<sub>2</sub>O<sub>5</sub> after consolidation, and wherein light attenuation in said optical fiber is less than about 1.8 dB/km at 1550 nm.

15. The optical fiber as claimed in claim 14 wherein said glass core further includes SiO<sub>2</sub> and wherein said optical fiber is substantially free of crystals.

16. The optical fiber as claimed in claim 15 wherein light attenuation in said optical fiber comprises about 0.25 dB/km at 1550 nm.

17. A glass for use in the core of an optical waveguide comprising:  
SiO<sub>2</sub>; and

by weight on an oxide basis after consolidation, between about 2% non-crystallized Ta<sub>2</sub>O<sub>3</sub> to 5% non-crystallized Ta<sub>2</sub>O<sub>3</sub>, wherein the attenuation of said optical waveguide fiber at 1550 nm is less than 0.25 dB/km.

18. The glass as claimed in claim 17 wherein said core glass is consolidated in a helium atmosphere at a temperature of between about 1600° C to about 2000° C.

19. The glass as claimed in claim 18 wherein said core glass is consolidated in a helium atmosphere at a temperature of between about 1600° C to about 1800° C.

20. The glass as claimed in claim 19 wherein said core glass is consolidated in a helium atmosphere at a temperature of between about 1600° C to about 1650° C.

21. The core glass as claimed in claim 17 wherein said core glass is consolidated in a vacuum atmosphere at a temperature greater than about 1450° C.

22. The core glass as claimed in claim 17 wherein said core glass is bounded by a cladding comprising  $\text{SiO}_2$  to form an optical fiber, and wherein light attenuation in said optical fiber is less than about 1.8 dB/km at 1550 nm.